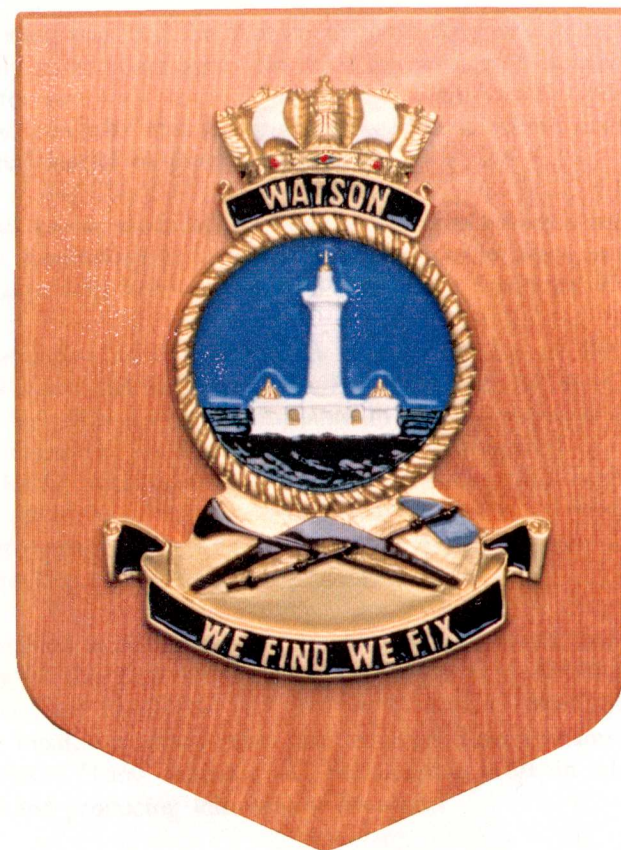


**AUTOGRAPHS AND ADDRESSES**

**RAN RADIO MECHANICS ASSOCIATION  
SECOND NATIONAL REUNION  
15 - 18 NOVEMBER 1994**



**H.M.A.S. WATSON SOUVENIR**

## FOREWORD

In planning the activities for the second RAN ex-Radio Mechanics Association National Reunion, I thought it would be a nice touch to produce a little souvenir document relating to HMAS Watson. This would serve, for those who were at Watson during the years 1942 through to 1946, as a nostalgic reminder of the exciting and wonderful days of working with the new technology of that era, **RADAR**.

My reasoning was that the Watson of those days ceased to exist almost completely some years ago. The area is now a well-established nature reserve for everyone to enjoy. Here and there can be seen a lump of reinforced concrete almost buried in the ground where once was some highly confidential electronic installation.

As we all know, there is generally a vast gap between having a good idea and translating it into reality. Fortunately there was one very capable man who held up his hand and said, "I will do it".

The information contained here is merely the tip of the iceberg of historical fact and legend carefully researched by ex-CPORE Reg Labone. Reg has enough information to sink an Admiral's barge, and bravely asserts he will use this to write the history of Watson and related Radar installations. To those reading this who served in Watson, please give Reg access to your memories of hard fact, your dits, half-truths and outright porkies. It is information like this that will make Reg's book so rich and valuable.

I am delighted to recognise Reg for his dedicated work and enthusiastic approach to the task of creating the material. To Ken Donald in Melbourne and to Corby Williams in Canberra, thank you for your valuable input. I would also like to thank Eunice Ramsay, wife of PORM (HO) 'Tony' Ramsay, for her creative work in taking the raw material and producing this quality document.

*George Stevens,  
Greenwich N.S.W.*

*November 1994*



## INTRODUCTION

The story of Watson (as it was affectionately known for three years until it was formally commissioned as HMAS Watson on 14 March 1945) is inseparable from the story of the introduction of Radar technology into the Royal Australian Navy in 1942.

Early in 1942, CSIR (later CSIRO) scientists gave a handful of selected RAN personnel specialised instruction in the then new, highly secret RDF (Radio Direction Finding) technology. This select group included some specially recruited young graduate officers, and a few former civilian Radio Broadcast Technicians. This small group of men formed the nucleus of a new RDF (Radar) Branch in the RAN. They were soon joined by a steadily increasing flow of trainee Radio Mechanics.

This booklet provides brief details of the exciting sequence of events during the years 1942 to 1946.

## ACKNOWLEDGEMENTS

Many former Radio Mechanics answered our Association's call to tell their stories and have come forward with surprisingly clear recollections of those events of 50 years ago. Without their input this booklet could not have been written.

Our special thanks go to our HO members Max Arnold, Doug Bristow, Tom Chapman, Bill Charlton, Maurie Gallen, "Bash" Harrell, Wally Hayes, Reuben McDonald, Neil Pieremont, Alex Richardson also many ex-Torrens members including Ken Donald and Corby Williams who tracked down valuable archival material.

The response from all was overwhelming, and provided information much in excess of the space available in this souvenir booklet. However, all of the information has been written up, and is recorded in our Association's files. At some future date it will be used to write a book describing the eventful wartime processes that led to the formation of the 'elite' Radio Mechanic Branch of the RAN.

## H M A S WATSON

### THE BEGINNINGS

By early 1942 the Australian Government was well advanced with plans to create significant Australian Radar capability, both in developmental and manufacturing roles. Australia had had its top Radiophysics scientists working alongside British scientists in UK laboratories for several years, and there was a constant interchange of personnel and information between the two countries.

The Australian Armed Services were slow to adopt this new technology, and at the time of the bombing of Darwin (February 1942) the only RDF set located there was not yet in operation. Also, at the time of the Battle of the Coral Sea (May 1942) no Australian designed Radar was available for RAN ships.

Until 1942 the Army School of Artillery occupied the whole of South Head. However, the RAN set up a 'Port War Signal Station' on the cliff top to control shipping entering and leaving Sydney Harbour and from an underground bunker the RAN operated the anti-submarine detection loops that formed part of the boom defences in the harbour. Personnel manning these installations were attached to HMAS Rushcutter, as no messing or sleeping facilities were available at Watson which was simply an out-station of Rushcutter.

As previously stated the RAN formed a 'core' group of RDF specialists about May 1942, and by June that year the first groups of RAN trainee Radio Mechanics were being instructed in basic Radio, and RDF 'Special Circuits' at Melbourne Technical College. Upon completion of this basic training these men were drafted to HMAS Rushcutter to undergo RDF training at the Watson site, where simple basic RDF equipment had been installed in several huts erected for this purpose on the rocky heights at South Head, Sydney.

## INTRODUCTION

The first trainee Radio Mechanics at Watson had to find their own private accommodation and feed themselves, for which they were paid a 'Lodge & Comp' allowance.

The good ladies of St. Peter's Church, Watsons Bay, perhaps concerned by the Navy's neglect of the welfare of 'our boys' who were toiling up on the craggy heights of South Head without meals or accommodation, had by 1942 set up a canteen in the Church Hall. For the cost of one shilling per meal, grateful sailors picked their way down 'goat tracks' to this haven, where they enjoyed a nourishing hot meal at midday. These caring Church ladies soon found a large house nearby and set up a temporary hostel for Naval personnel, providing beds for 16 sailors at a cost to each of one shilling per night.

By 1943 Watson quickly took on a momentum of its own. As trainees arrived from their basic radio training at Melbourne Technical College extra facilities were required. Classroom huts were built, additional electric power sources provided, more RDF equipment supplied and fitted, and some minimal sleeping huts erected. A huge, three phase motor generator was installed to provide the basic (ships mains) 220V.DC. required to run the individual RDF set alternators. The central RDF area, known as 'A' Block, was built with heavy solid brick walls and a flat concrete roof to carry the RDF aerials.

By 1944 a small Administration building was erected and the large 'A' Block was fitted out with additional Radar sets and still more classrooms were built for Radar Operator Classes (R.P. Ratings). However, there was still virtually no sleeping accommodation or messing facilities for the sailors.

During October 1944 the first *full* Radio Mechanics course began with the course lasting about 48 weeks. The first half of the course was basic Radio and the remainder was on Radar equipment. The trainee Radio Mechanics, who travelled daily to and from Watson across the harbour in Navy work boats, were borne on the books of HMAS Penguin.

Melbourne 1943 - 'On the way to becoming Radio Mechanics'

On 14 March 1945, Watson was commissioned as HMAS Watson although accounts were still carried on the books of HMAS Penguin.

Lt. Cdr. J. L. Bath, RAN, had been appointed Captain of HMAS Watson and reported that "construction of messes, sleeping quarters, and classrooms is proceeding slowly and that approval has been given for the construction of an Action Information Centre, at RAN expense". Two new classroom blocks and administration blocks were completed about July 1945.

Shortly after the war ended the canteen operated by the church closed down and provision of midday meals was carried out at the base using the recently completed galley block. A skeleton staff of cooks and supply ratings were drafted, but victualling was still carried out from HMAS Penguin.

The Commanding Officer sent a letter to St. Peter's Church to "record the appreciation of all officers and men of the Radar Branch, who had passed through their courses at South Head since May 1942, for the excellent voluntary work carried out by the Watsons Bay Church ladies." The organisation of the voluntary helpers and the catering was mainly the responsibility of Miss N. M. Wilson with the general supervision carried out by the Reverend R.F.C. Bradley.

The Watson CO also reported that - "a separate Naval Stores had been built, and stores staff have been drafted to create new stores ledgers for HMAS Watson." Stores transactions had previously been carried out using HMAS Rushcutter ledgers.

Due to the heavy loss of trained Radio Mechanics, who had returned to civilian life with the ending of the war, some Senior PO Telegraphists were selected to undergo conversion courses at Watson to become Radio Mechanics. Two courses were held during 1946. Also in June 1946 the first 'Torrens' trainee Radio Mechanics who had completed their basic Radio training arrived at Watson for their Radar training.



**RADIO MECHANIC BRANCH—ADOPTION IN THE RAN**  
(Extracts from Commonwealth Naval Order 414, August 1943)

1. A new branch of Radio Mechanic is being introduced in the R.A.N. and will comprise the ratings required for the repair and maintenance of W/T and Radar equipment. The present Wireless Mechanic Branch will be absorbed into this new Branch.

2. It is the intention that Radio Mechanics shall eventually be capable of maintaining all W/T and Radar equipment, but in order to meet immediate needs, training must be specialized in certain directions until circumstances admit of complete training. Advancement will not be prejudiced meanwhile, though ability to maintain all types of equipment will be a qualification for advancement to Chief Petty Officer.

3. When trained only in certain apparatus, Radio Mechanics will be designated as follows, according to their training:—

- (R) Radar equipment, general service
- (W) Part Radar, part W/T equipment, general service.
- (S) W/T equipment in Stations ashore.

13. *Training Course* — Candidates for Radio Mechanic (W) will undergo the following courses:—

- (i) Twenty-four week at Melbourne Technical College.
- (ii) Four weeks at Flinders Naval Depot Signal School
- (iii) Twelve weeks at Radar School, Sydney.

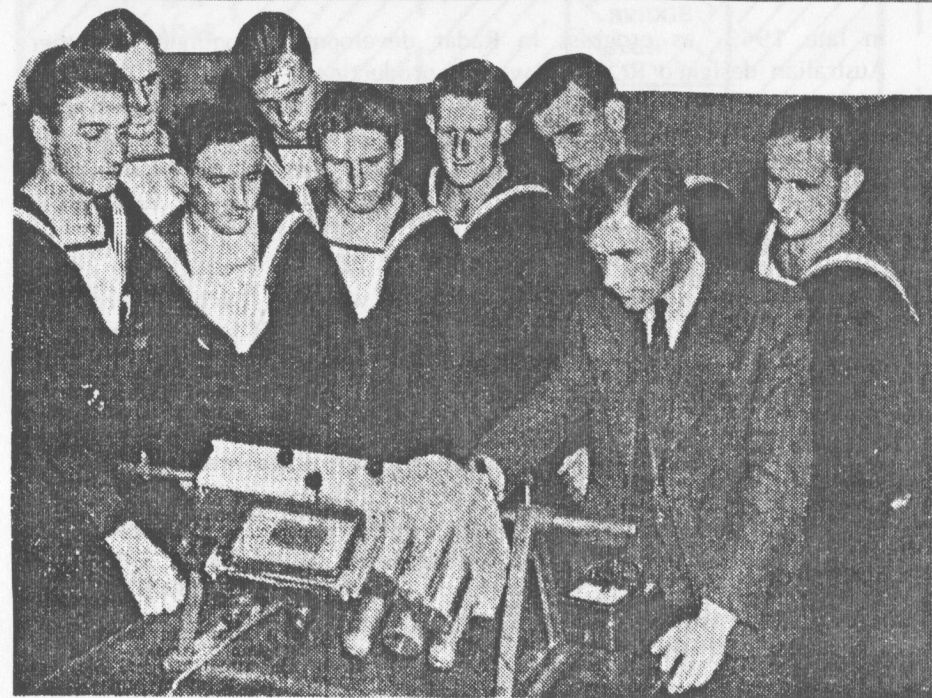
Radio Mechanic (S) Candidates will undergo Courses as follows:—

- (i) Twenty-two weeks at Melbourne Technical College.
- (ii) Two weeks at Flinders Naval Depot Signal School.
- (iii) Four weeks at Belconnen and Harman.

14. At the end of eighteen weeks' instruction at Melbourne Technical College, ratings will be divided into either (W) or (S). Candidates must understand that they will not be given the option of becoming (W) or (S) but will be sub-divided according to Service requirements.

The RANR ratings transferring to the Radio Mechanic Branch are to be discharged from the RANR the day prior to transfer and to be entered in the RAN under an hostilities only engagement from the day of transfer.

*Melbourne 1943 — 'On the way to becoming Radio Mechanics'*



R.A.N. wireless mechanics at a Melbourne class learning the use of the radio "link" trainer receiver, which reproduces any fault on a radio set without harming the parts. The instructor is Mr. E. Brighthope.

## THE EQUIPMENT

There was a wide variety of RDF/Radar equipment in use, for wartime was a period of very rapid development. However, the Watson training programme kept pace with the constant changes.

The RAN RDF Radio Mechanics of the 'core' group did not see their first RDF set until they helped to install the first of the magnetron sets – an RN type 271, 10 cm set. This, along with an ex-Army mobile RDF set used in New Guinea (possibly known as an A290) were the only RDF sets originally at Watson. In 1943 an RN type 285, (a 600 MHz Gunnery Control set as fitted in the RAN cruisers) complete with an aerial array consisting of six 'fishbone' rods to achieve its beam-switching ability, was installed. Around about this time the first Australian designed shipborne RDF set, the A286Q, operating at about 196 MHz, was also in operation.

In late 1943, as progress in Radar development continued, another Australian designed RDF set was in production – the A272 (a 10cm 3000 MHz) magnetron powered set. These Australian designed Radars were quickly fitted to the 50 Australian built corvettes. Towards the end of 1944 a third designed shipborne Radar, the A276 carried out its first sea testing. By July 1945 the A276 was in use at Watson for training purposes.

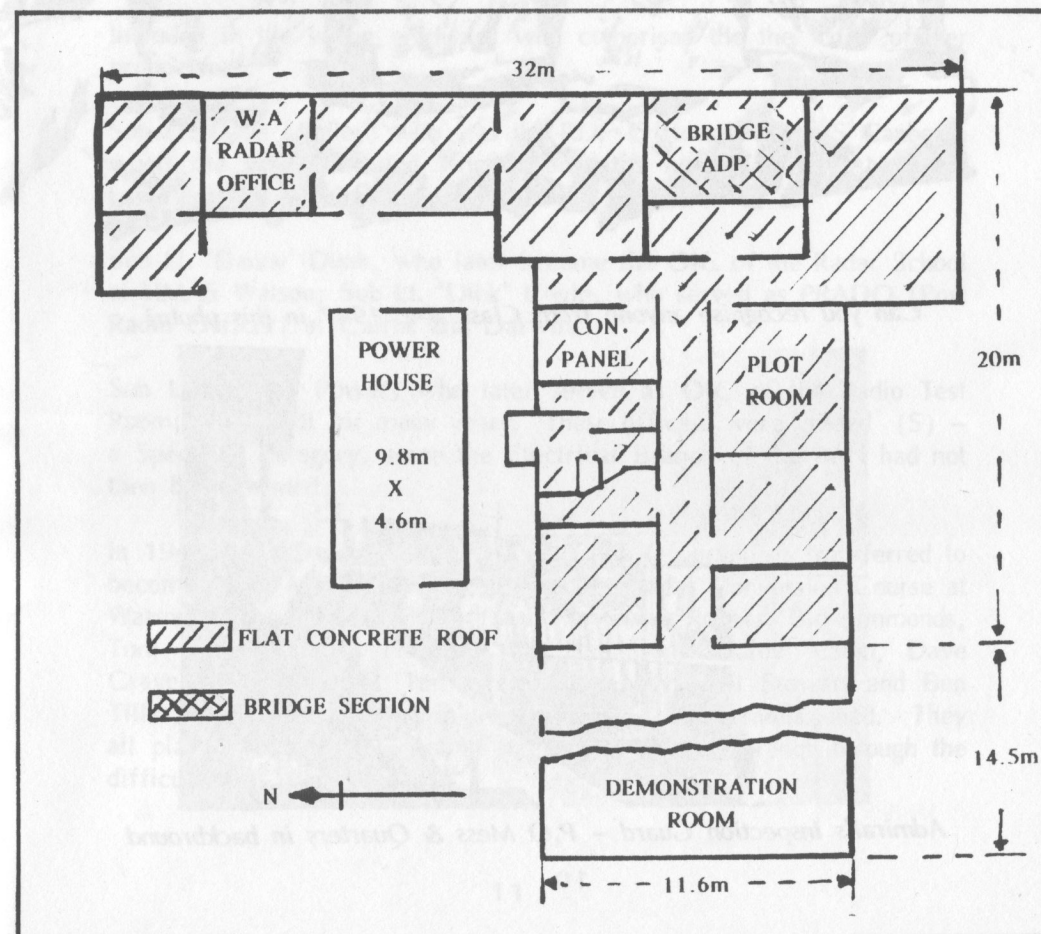
While on convoy and mine sweeping duty with the RN battle group in the Indian Ocean, HMAS Cessnock's Radar A286Q became unusable. The Radio Mechanic had to cope with a replacement, a RN small ships Radar 291 (operating at 214MHz).

The RAN cruisers were fitted mainly with RN Radar sets, including a major air-warning set called the Type 281 (working at about 84 MHz); a 'Warning Combined' set (variously a 273, 276, then a type 293); a surface warning/height finding Radar called a type 277 and a main Gunnery Control Set (either a type 284 or 285). HMAS Australia and Watson used a Type 274, and HMAS Hobart was fitted with a USN FC10.

The cruisers also carried many AA Barrage Radar Sets, Type 282. According to one of the HO Radio Mechanics 18 Radar sets were fitted on HMAS Shropshire. However, that number included IFF equipment type 242 and 253. Some RAN Radar Mechanics also had to deal with USN Radars such as MTB type USN SO13, the USN Fire Control FC10 and our Tribal Class destroyers are believed to have been fitted with USN SG (Sugar George).

## WATSON RAN RADIO SCHOOL 'A' BLOCK

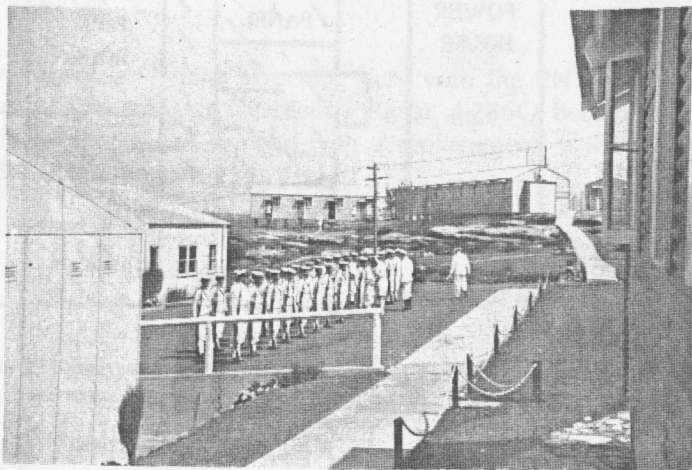
*This scale drawing of 'A' block was obtained from Archives by Ken Donald and shows the layout at May 1944. It is not clear if the sketch is 'actual' or 'proposed' as no explanatory notes were available.*







*Can you recognise anyone from Class #4, 1947 in this photo?*



*Admiral's Inspection Guard – P.O Mess & Quarters in background*

## THE PEOPLE

It was considered that Radio Technology could not be comprehended without an adequate understanding of maths and although RAN Radio Mechanics came from all backgrounds they had to possess qualifications equal to Leaving Certificate Mathematics.

The first RAN Radio Mechanics were formed from specially recruited civilians who held a PMG Broadcast Station Operator Certificate. Later on they were chosen from serving sailors who volunteered to be trained in this new technology and who had the necessary educational qualifications. These included Maurie Gallen, Wally Haines and Neil Pieremont.

Included in the young graduates who comprised the the 'core' officer group were:

Sub Lt. Dave Medley, who was the RDF Officer on HMAS Canberra when she was sunk and who became the head of the RAN Radar Laboratory from 1942–5.

Sub Lt. 'Danny' Dunk, who later became the OIC of the Radar School at HMAS Watson; Sub Lt. 'Dick' Coyle, who served as PRADO (Port Radio Officer) at Cairns and Darwin.

Sub Lt. Gordon Power, who later served as OIC of the Radio Test Room, Leichhardt for many years. These officers were graded (S) – a Specialist category, since the Electrical Branch of the RAN had not then been formed.

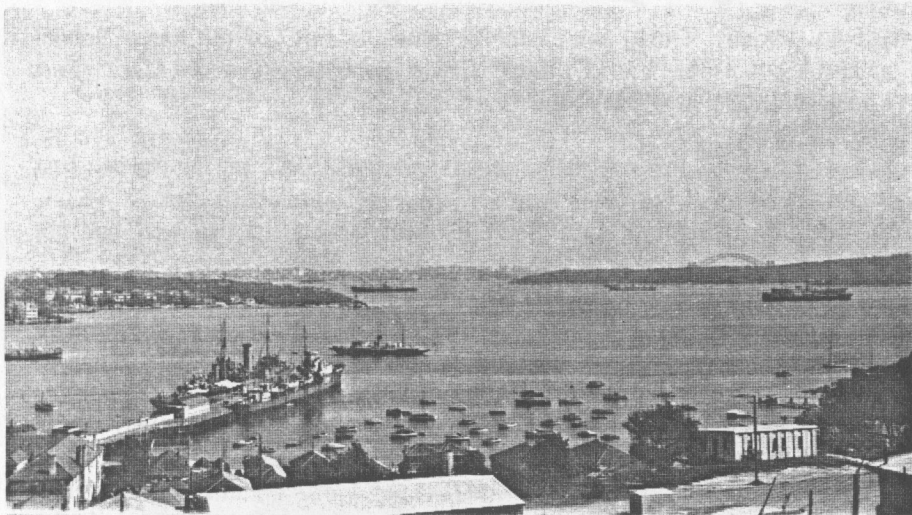
In 1946 a number of Petty Officer/Chief Telegraphists transferred to become Radio Mechanics by completing a Radar Conversion Course at Watson. These men, including Stan Parr, Jack Rogers, Bill Simmonds, Tom Liddell, 'Bash' Harrell, Bob Hutchison, 'Baldy' Eaton, Dave Gravell, Alec Heggie, Ted Kirkin, Bob May, Col Stewart and Ben Tiller, continued serving in the RAN and were commissioned. They all played an essential part in steering the Radar Branch through the difficult post-war years.

RMs were a 'tight group' carrying out a difficult key role and serving on most ships in the RAN, usually in groups of two or three.

Ships were poorly equipped for repair and testing work and the RM's sole 'weapons' were usually just an Avometer, a 'wee' megger, a soldering iron and minimal spare parts. A tradition rapidly developed where the RM usually slept alongside the equipment so he could be readily available to 'coax and nurse' it through its frequent breakdowns. During the war, ships' captains were mainly of the 'old school' and did not have a lot of faith in the 'new fangled' Radar until a situation arose where only Radar was able to provide the solution.

Any lingering doubts which the Skipper may have had over the value of Radar was usually dispelled by the sight of the RM working non-stop through the night – effecting repairs by torchlight on a blacked-out bridge, working on a gun turret or up a mast chasing short circuits in aerial runs often in bleak weather.

Duty knew no bounds to these men who, like all those in the Royal Australian Navy, served with complete dedication.



*A view from Watson early 1947 showing the supply ship Platypus at the wharf with the pilot ship Captain Cook at anchor.*